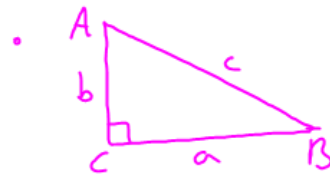


Solving triangles

→ correct setup

- Angles marked w/ big Letters
- Sides with little letters
- Sides opposite the angle marked with same letter

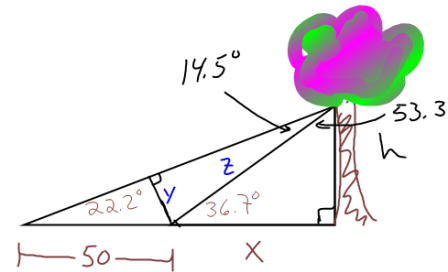


→ Get all angles and all sides

Angles of elevation and depression



the trunk of a tree
 Francisco needs to know the height of a tree. From a given point on the ground, he finds that the angle of elevation to the top of the tree is 36.7 degrees. He then moves back 50 feet. From the second point, the angle of elevation to the top of the tree is 22.2 degrees. Find the height of the tree.

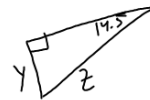


See p. 80 for algebraic solution OR
 Use the three Δ 's above.

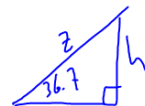
$$\sin 22.2 = \frac{y}{50} \Rightarrow y = 50 \sin 22.2 \quad \underline{y \approx 18.89}$$



$$\sin 14.5 = \frac{y}{z} \Rightarrow \sin 14.5 = \frac{18.89}{z} \Rightarrow z = \frac{18.89}{\sin 14.5} \approx \underline{\underline{75.44}}$$



$$\sin 36.7 = \frac{h}{75.44} \Rightarrow h = 75.44 \sin 36.7 \approx \boxed{45.09}$$



Section 2.4 # 9-14 (skip 2), 19, 23, 35, 37, 41, 45

Section 2.5 # 11-23 (odd), 26